

Appl. No. 10/749,337
Amdt. February 21, 2008
Reply to Office Action of December 27, 2007

RECEIVED
CENTRAL FAX CENTER

FEB 21 2008

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

Claim 1 (previously amended): A separation membrane for a rechargeable battery, comprising:

a plurality of composite layers attached to each other, each of the composite layers comprising a plurality of molecular layers;

wherein each of the molecular layers comprises a plurality of equilateral triangle units, each of the equilateral triangle units comprises three lithium ions and a carbon atom, each of the three lithium ions is respectively at a corresponding one of the three vertexes of the equilateral triangle unit, and a carbon atom is at a center of the equilateral triangle unit.

Claim 2 (original): The separation membrane as described in claim 1, wherein the number of the composite layers is in the range from 5 to 20.

Claim 3 (original): The separation membrane as described in claim 2, wherein the number of the composite layers is 10.

Claim 4 (original): The separation membrane as described in claim 1, wherein a thickness of each of the composite layers is in the range from 500 nanometers to 500 microns.

Claim 5 (original): The separation membrane as described in claim 4,

Appl. No. 10/749,337
Amdt. February 21, 2008
Reply to Office Action of December 27, 2007

wherein the thickness of each of the composite layers is approximately 100 microns.

Claim 6 (previously amended): The separation membrane as described in claim 1, wherein a thickness of the separation membrane is approximately 1 millimeter.

Claim 7 (original): The separation membrane as described in claim 1, wherein a length of each side of each of the equilateral triangle units is in the range from 25 nanometers to 100 nanometers.

Claim 8 (original): The separation membrane as described in claim 1, wherein the composite layers are attached to each other with adhesive.

Claims 9-11 (cancelled)

Claim 12 (previously amended): A separation membrane for a rechargeable battery, comprising:

a plurality of composite layers attached to each other, each of the composite layers comprising a plurality of molecular layers;
wherein each of the molecular layers comprises a plurality of equilateral triangle units arranged in an alternative/staggered manner so as to form a hexagonal extension thereof, wherein each of the equilateral triangle units comprises three lithium ions and a means, each of the three lithium ions is respectively at a corresponding one of the three vertexes of the equilateral triangle unit, and the means of the equilateral triangle unit is configured for attracting said three lithium ions towards a center of the equilateral triangle unit.

Appl. No. 10/749,337
Amdt. February 21, 2008
Reply to Office Action of December 27, 2007

Claim 13 (previously amended): The separation membrane as described in claim 12, wherein said means is at least one of carbon, silicon, and germanium.

Claim 14 (original): The separation membrane as described in claim 12, wherein each of said molecular layers defines silicon carbide, or silicon oxide, or compositions of carbon and silicon carbide, and or compositions of silicon and germanium thereof.

Claim 15 (original): The separation membrane as described in claim 12, wherein a diagonal of each equilateral hexagon of said hexagonal extension, which passes through a center thereof, is in a range of 50 nanometers to 200 nanometers.

Claim 16 (previously amended): The separation membrane as described in claim 12, wherein each of said equilateral triangle units is nanosized.